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# Chronic Conditions of the Gall Bladder

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The concept of biliary tract disease has changed. During the past two decades much experimental work has been done, with the result that the physiology of the gall bladder is now more agreed upon and the pathogenesis of cholecystic disease is better understood. Following the work of Meltzer (1) in 1917 on the relaxing influence of Magnesium Sulphate when applied to the duodenum, Vincent Lyon (2) of Philadelphia made practical use of this by developing the Lyon method of biliary drainage. This popular method of treatment supplanted the Calomel and Salts era, but has now been largely discarded as a therapeutic procedure and finds its greatest usefulness as a diagnostic aid. With the notable achievement of Graham and Cole (3) in 1924 in the use of a contrast medium to demonstrate roentgenographically the function and anatomy of the biliary tract, accuracy in diagnosis as great as that in any other field of clinical medicine was accomplished. With the advent of bile salts substitutional therapy, the results of medical treatment of non-calculous cholecystitis are becoming increasingly more satisfactory.

*The constituents of bile.*

Bile consists of water, salts, bile pigments—bilirubin and biliverdin—bile acids — glycocholic and taurocholic in the form of their sodium salts—cholesterol, lecithin, neutral fats and soaps, and mucin added to bile by the secretory activity of the bile ducts and gall bladder.

*Physiology of the constituents of bile.*

Bile pigments are excretory products from disintegration of hemoglobin and have no function. Cholesterol is an excretory product in the main, but may be in part reabsorbed, as also may lecithin.

*Secretory.*

The synthesis of bile acids takes place in the liver. Its production is intimately associated with protein metabolism and closely parallels urinary nitrogen excretion. The function of bile acids is to accelerate the action of the fat splitting enzyme of the pancreas; to aid in absorption of fats from the intestines; to act as choleretics, increasing the further production of bile acids; and to hold cholesterol in solution. If the ratio of bile salts to cholesterol is disturbed in the direction of reduction of bile salts, cholesterol may be precipitated out as pure crystals.

*Physiology of the gall bladder.*

The gall bladder fills when there is sufficient pressure of bile within the common duct to force bile into the gall bladder. The liver secretes bile constantly—some 500 to 1500 cc. daily. The gall bladder concentrates the bile about ten times. This concentrating mechanism involves the resorption of water and calcium and it is controversial whether cholesterol and bile salts are.

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*Evacuation of the gall bladder.*

The gall bladder contracts by its intrinsic musculature and at the same time the sphincter of Oddi relaxes. The entrance of Chyme into the duodenum initiates a reflex or hormonal mechanism or both, which results in evacuation of the gall bladder. Ivy (4) thinks there is a hormonal control and designates the substance "cholecystokinin." The character of the stimulus is important. Magnesium Sulphate, protein products such as peptones, and most important, hydrolysed fats stimulate the most complete evacuation of the gall bladder. Ivy (4) thinks that intravesical pressure determines to a great extent the degree of emptying—if either too high or too low there might be slight response.

*Disturbed chemistry and physiology of bile in the formation of gall stones.*

In the condition of cholelithiasis the chemistry and physiology of bile is disturbed, so that substances which ordinarily are kept in solution are precipitated out. It should be noted that gall stones are composed of three materials that are not readily soluble under the best of circumstances — that is, calcium, cholesterol, and bile pigments. Sweet (5) states that the formation of stones may take place when one of four situations prevail. First, the constituents may be excreted from the liver in an abnormal state due to faulty metabolism, as for example the formation of stones in pregnancy. Second, if the gall bladder fails to resorb cholesterol, assuming that it does so normally, it may collect. Third, a reflux of intestinal contents and pancreatic juice into the common duct may result in the precipitation of elements of both. Fourth, and probably most important, is that the solubility relationships in bile are disturbed by infectious processes in the gall bladder and bile passages. Morrison et al (6) found in fifteen humans with gall stones that the hydrogen ion concentration of bile was toward the alkaline side, whereas, in normal cases, it is more nearly neutral in reaction. It has been noted in cases of hemolytic jaundice that about 70% develop pigment calculi in the gall bladder. We have also noted the presence of stones in a case of Bantis disease.

*Infections of the gall bladder.*

Rehfuss and Nelson (7) reported, in over 4,000 gall bladders operated, positive cultures in 45%. In addition to this, a number were found in which there was pathology which could be explained only upon the basis of a pre-existing infection. It is a well known fact that colon dysfunctions, particularly the irritable type of colon, and lesions of the heart, kidneys, and joints are frequently associated with gall bladder disease. It is thought by these authors that the same organism that strikes at the gall bladder affects the kidneys, heart, and joints. They have prepared a powerful antigen of a nonhemolytic streptococcus from the bowel and have produced lesions in the laboratory animal similar to those in the human. This organism has also been recovered from sinuses, throat and teeth.

*Strawberry Gall Bladder.*

Allied to both low grade infection and disturbance of cholesterol metabolism is the peculiar condition of strawberry gall bladder or cholesterosis. The gall bladder wall is thickened and over the mucosa are deposited yellow flecks of cholesterol resembling seeds of a strawberry. This condition is frequently associated with a single cholesterol stone.

*Disturbance of function.*

With reference to dyskinesia of the gall bladder, Westphal (4) classifies two types—the hyperkinetic type, with spastic distention and colicky pain; and the atonic type, giving a dull aching pain. Ivey (4) says "The concept of biliary dyskinesia provides a rational basis for gall stone colic without gall stones."

*Clinical aspects of gall bladder disease.*

In the gastro-enterology clinic of the University of Pennsylvania, 30% of patients with digestive symptoms are eventually diagnosed as having cholecystitis, with or without stones (Rigney, Mortensen, and Miller) (8). The history of pain is important. When distention involves the gall bladder alone there is a sensation of epigastric distress not too well localized. It is vague and may produce nausea but not vomiting. If the cystic or common duct is involved the pain is more apt to be right sided and toward the back beneath the shoulder and,

if severe, induces nausea and vomiting. Pain may be left sided. Probably these patients are more apt to have pancreatic involvement or reflex spasm of the esophagus. In the usual attack of gall bladder colic the pain is of the crescendo type—vague in its beginning and increasing in its severity and of a constant aching character, unless there is a sliding stone or intestinal colic, under which circumstances it becomes colicky in character. The presence of jaundice following an acute attack of pain usually means a stone in the common duct. Tenderness over the gall bladder may be present, but frequently disappears after an acute attack has subsided. A long history of indigestion, not characteristic of other abdominal pathology, is highly suggestive of gall bladder disease.

*Diagnostic aids.*

To establish a positive diagnosis of cholecystic disease, two procedures are of the greatest aid—biliary drainage, and cholecystography. Additional aids, such as liver function tests and blood chemistry determinations, are of value but time does not allow a consideration of them.

*Non-surgical drainage.*

The average person who has been fasting for twelve hours will have some bile in the duodenum. If, after the introduction of Magnesium Sulphate into the duodenum by the Lyon method, with which you are familiar, no bile at all is obtained, we assume there is obstruction to the common duct. If the common duct is patent, a light yellow bile will flow. After a variable period the second darker and more viscid fraction of bile, B, is obtained. If there is cystic duct obstruction, there will be no B fraction of bile. If 60 to 75 cc. of this darker fraction of bile is obtained we assume a normal concentrating mechanism of the gall bladder. The third clearer and lighter yellow fraction is thought to come from the hepatic ducts. The origin of these fractions of bile however has been questioned by some authors. The fractions of bile obtained may then be cultured for organisms or the sediment examined. Bockus (9) considers the presence of calcium bilirubinate and cholesterol crystals in the sediment pathognomonic of gall stones.

*X-ray examination* (10 and 11)

In the X-ray examination, a survey film of the gall bladder area alone may reveal:

Opaque stones.

Milch of calcium bile.

Calcified gall bladder.

With the use of a contrast medium, provided that extra biliary factors which might interfere with proper visualization of the gall bladder have been eliminated, one may diagnose the following conditions with an accuracy varying from 87 to 97 per cent according to different authors:

Normally functioning gall bladder with and without stones.

Partially functioning gall bladder with and without stones.

Non-functioning gall bladder.

Non-functioning gall bladder with stones.

Partially functioning or non-functioning gall bladder with milch of calcium bile.

Dyskinesia of gall bladder.

Papilloma, adenoma, and pericholecystic adhesions.

*Indications for medical management.*

In those cases in which there is dyskinesia of the gall bladder, in those in which there is still fairly good concentration of the dye with no evidence of stones, and in those in which surgery is unwise because of advanced age or associated disease, medical treatment should be given an exhaustive trial. If one resorts to surgery in the first two types of cases, he is apt to find that following operation the patient still has symptoms.

*Indications for surgery.*

Those with grossly abnormal function, as indicated by non-visualization by cholecystography and no B bile by non-surgical drainage, and those with impaired function and stones get best results from surgery. In those cases in which stones cannot be demonstrated by X-ray, but repeated attacks of gall bladder colic and crystals in the biliary drainage suggest their presence, surgery should be resorted to.

*Effect of drugs.*

Necheles (12) found that Trasentin (Ciba) caused relaxation of the gall bladder more effectively than either Atropine or the Nitrites. Morphine in sufficiently large doses will allay pain, but if given in small doses may cause spasm of the sphincter or Oddi and increase the pain. Substitutional bile salt therapy has become a common clinical practice, as it is well known that bile salts and their derivatives are effective stimulants to the flow of bile. Schmidt et al (14) found that the conjugated bile acid preparations, Bilron (Lilly) and Dechacid (Wilson Laboratories), were superior to Decholin (Riedel de Haen) and Ketochol (Searle), which are the oxidized acids, in that the volume and total bile acid output was increased with the first two preparations while the latter two drugs increased the aqueous fraction of bile but resulted in depression of bile acid synthesis by the liver, thereby raising the question of whether these unconjugated substances are toxic to the liver. It has been noted by others, and in one case by us, that Decholin may disturb uric acid metabolism, particularly in the elderly individual, and result in a gouty diathesis. The possible toxic effect, then, of some of these drugs should be kept in mind.

In the atonic type of dyskinesia, and this is frequently found in the asthenic individual prone to gastric hypoacidity and low pancreatic function, there is probably not enough bile delivered at a time to digest fats. Bile salt therapy plus pancreatic enzymes is useful in treating some of these patients. In the spastic type, seen often in the hypersthenic, vagotonic individual, vagus depressants such as Belladonna are beneficial.

*Diet.*

While theoretically one would expect a diet high in fats to stimulate better function of the gall bladder, from a practical standpoint it is well known that a diet somewhat limited in fats is tolerated better by the gall bladder patient. A certain amount of fat is necessary for the caloric and vitamin requirement and to stimulate evacuation of the gall bladder and this fat is given preferably in the form of cream, butter, and eggs. Other fats, such as gravies, fat meats, oil dressings, and food fried in fats, are not well tolerated and should be omitted entirely.

*Post-operative adjustment.*

With reference to the patient who has had the gall bladder removed, one should consider the post-operative mechanism which obtains in order to handle these cases. A number of them are going to have symptoms from the sudden withdrawal of the concentrating mechanism until time has allowed the biliary tree to take on the function of the gall bladder. Sometimes the sphincter lets all the bile out, at others there is spasm of the sphincter with insufficient amount of bile. These patients should have smaller feedings more frequently and in addition bile salts and pancreatin to increase the hydrolysis of fats.

## *SUMMARY*

A review of the chemistry and physiology of bile is presented, with some of the newer concepts of the pathogenesis of cholecystic diseases. The clinical aspects and diagnostic methods are reviewed and the application of physiological principles to the management of the gall bladder patient is outlined.

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## DISCUSSION

DR. IZARD JOSEY (Columbia): The diagnosis of gall bladder disease at times is rather difficult. The use of the Lyon drainage method is time consuming and requires considerable experience in the interpretation of the findings. For that reason it isn't used as widely as it should be. I would certainly like to follow Dr. Holmes in advocating the more general use of duodenal drainage as a diagnostic procedure. In my experience in following cases to the operating table, I have been at times rather disappointed in the Graham-Cole test. So often we suspect that a patient has gall bladder disease and the dye is given it concentrates sufficiently but after a fatty meal a portion of the dye remains in the gall bladder and the X-ray man then gives a diagnosis of partially functioning or disfunctioning gall bladder. The patient is operated on and an anatomically normal gall bladder is found and you wonder if the function ever had been disturbed. Where such X-ray findings are present, my routine is to repeat the X-ray and often the second test is found to be normal. Certainly there is good reason to believe that there may be variations in the functioning of an organ such as the gall bladder from time to time. I don't want to depreciate in any way the use of the Graham-Cole test because it is of considerable value and assistance in many cases but it is far from infalible. One contraindication to the use of the Graham-Cole test must be kept in mind. The dye should never be administered to anyone who has jaundice.

In considering the diagnosis of gall bladder disease, do not depend entirely on laboratory findings. Remember that the history is most important, particularly that of intolerance of dietary fat with development of flatulence and at times pain, associated with constipation and relief from a dose of Epsom Salts.

As to therapy, I have none too much confidence in the use of the newer preparations containing bile salts. Certainly in the functional diseases they may be of aid and where we have actual lack of insufficiency of bile they can be used as substitutional therapy. I believe that the relief of symptoms by bile salts is in most instances due to relief of constipation in patients with functional disease. I doubt very seriously whether anybody with real gall bladder disease ever got well by the use of bile salts. Epsom salts serves as a satisfactory laxative in these cases, is less expensive and will not cause toxic reactions. Also the use of the Lyon's drainage as a therapeutic procedure is now recognized as being of little value except in neuroses. A low fat diet is probably of more value in relieving symptoms than any other measure.

There are two phenomena that are interesting and show you how little we know about gall bladder—one is occasional removal of an anatomically normal gall bladder with relief of symptoms. Certainly some of these may be on a psychic basis. Then not infrequently gall stones are found by X-ray or autopsy and no symptoms of gall bladder disease could be elicited even by close questioning.

A certain number of patients with gall bladder disease are tided over attacks of acute symptoms and improve afterwards on medical treatment. Also many patients with real gall bladder disease are handled medically with a certain degree of success. However, I feel that the only real cure for gall bladder disease is surgery and that to delay this approach may at times be definitely dangerous to the life of the patient.

DR. W. S. JUDY (Greenville): Mr. President and members of the Society: I want to discuss the paper from the standpoint of the Graham Cole test. Dr. Josey stated that confusion sometimes existed because of a small amount of dye-containing bile remaining in the gall bladder after the fatty meal. I feel that this is to be expected up until at least two hours without the gall bladder being suspected of poor function.

I wish to present a few slides in connection with the discussion.

(Slide) This shows the usual conditions with a normally functioning gall bladder. In fourteen hours after the oral administration of dye the organ has filled with concentrated dye-containing bile. Within a couple of hours after a fatty meal, emptying is about complete.

(Slide) This demonstrates the condition known as dyskenesia, mentioned by the essayist. The gall bladder has failed to empty over a period of 48 hours after taking a fatty meal. Some have advanced the theory that resorption of dye from the intestinal tract might account for this, but such an idea has never gained much popularity as the condition is found too infrequently to be caused by such a possibility.

(Slide) This is shown to impress upon you the need for getting views of the gall bladder in various positions if the conventional view does not bring forth a shadow. This gall bladder did not show at all in the posterior-anterior view, but by getting

a film with patient slightly rotated, it is brought into view.

(Slide) We still occasionally confuse gall stones with renal calculi. In such cases it is well to call upon the urologist for assistance. By securing lateral retrograde pyelograms the distinction can always be definitely made.

Dr. Holmes mentioned milch of calcium bile. I believe we have paid too little attention to this. Akerlund of Stockholm insisted upon films of the gall bladder in the vertical position in order to demonstrate a fluid level in this condition. The level will appear between the two layers of bile of different radiographic density. Below will appear the dense dye-containing bile; above, there will be the less dense limy bile. Between the two there is frequently a line of demarcation. Only films made in the upright position could show this. The reason is obvious, just as fluid levels in the chest are shown only in the vertical position.

I congratulate Dr. Holmes on her contribution and am glad to have heard it. (Applause).

DR. J. L. ANDERSON (Greenville): There is so much to say in discussing this paper on gall bladder that I hardly know where to begin. First I want to congratulate Dr. Holmes on the excellent presentation she has given us. I'd like to say about the Lyon drainage of gall bladder that I was in Philadelphia when Dr. Lyon was doing his pioneer work in 1919 and I saw quite a number of patients lying in bed with tubes draining into the basin. When I left Philadelphia, I came back with the equipment. When I got home one of the first patients I had was a barber with jaundice and he asked me if I knew anything good for jaundice. I said, "Yes." He said, "Won't you give me something; I have tried every medicine and I haven't gotten any better." I said, "If you will come to my office, I will try to give you some relief." I passed the Lyon tube, drained his gall bladder over a period of a week or ten days and the jaundice cleared up. I have used it on a number of cases and it is the only procedure that I know of that will give you consistently good results in catarrhal jaundice.

One other thing and that is this—I think a lot of people have chronic gall bladders removed where it should not be. I say this because I have heard Dr. Rehfus and many other medical men of his caliber, stand before a medical body and make the statement that too many of the patients on whom the surgeons do cholecystectomies are not relieved. As far as the surgeon is concerned they are cured, but they are not, and we doctors have to treat them. Of course when the gall bladder is full of stones or strawberry type and your patient is operable, go ahead and remove it. However, if they have acute cholecystitis, you don't want them operated on, until you treat them and allow the acute inflammatory condition to subside, as 90% will do. Protect the liver with glucose then operate on them if you think it is indicated. I have several patients now that have solitary stones in the gall bladder who developed acute cholecystitis. We treated them through this, had the Graham-Cole test done and found solitary stones. Due to age, heart conditions and other contraindications we did not advise surgery, and we shall not as long as they can go along comfortably. The surgeon would probably have something to say about this but that is the way I feel about it.

DR. EDWARD F. PARKER (Charleston): Dr. Holmes has given us a clear and adequate discussion of diseases of the biliary tract generally and of the diagnosis and treatment of gall bladder disease. Regarding diagnosis, I think without a doubt that the greatest advance made has been the Graham-Cole test. Regarding treatment, recently gall bladder disease has been studied a great deal with particular reference to correlation of the operative findings and the interpretation of the Graham-Cole test and the late results of cholecystectomy. As a result of this study, in the presence of stones in the gall bladder, there is very little doubt but that the gall bladder should be removed; certainly because, if for no other reason, carcinoma of the gall bladder has been found associated with chronic cholecystitis and cholelithiasis in as many as 5% of cases of the latter subjected to cholecystectomy.

Dr. Anderson states that there are patients subjected to cholecystectomy in whom the results are poor. There is no question that this is true. However, a large percentage of these patients, usually women, have only vague digestive complaints, have seldom had typical attacks of gall bladder colic, acute cholecystitis or jaundice, and have shown a fairly normally functioning gall bladder on repeated cholecystograms. I should like to mention one cause for this, namely, duodenal ulcer, as the cause of the symptoms rather than cholecystitis. In the two years prior to this at the Vanderbilt University Hospital where some such cases were operated upon, the gall bladder appeared grossly normal. In these cases the Graham-Cole test was possibly misleading. At operation all were found to have duodenal ulcers. There were 10 such cases, all women. Some say duodenal ulcer in women is rare. They are probably not. The roentgenologist is particularly apt to miss them when the ulcer is on the posterior wall, as was true in all the above cases. No doubt there are other patients subjected to cholecystectomy in whom the results are poor, that require further study.

DR. GERTRUDE HOLMES: I have nothing to add to the discussion but want to thank the doctors for their discussion.

# The Surgical Management of Varicose Veins and Ulcers

H. G. SMITHY, M. D., CHARLESTON, S. C.

Varicosities of the lower extremities may be treated by numerous and varied methods, most of which are common knowledge to the general surgeon. But without operative management, either alone or in combination with other therapeutic measures, none of these many procedures can guarantee a permanent cure. Generally speaking, a combination of saphenous vein ligation and retrograde sclerosing injection is today's most popular and most effective method of treatment; certainly it is the most effective. The purpose of this paper is to demonstrate the anatomical and physiological soundness for combined operation-injection treatment, as employed in the Department of Surgery of Roper Hospital.

*Anatomy & Physiology.* A clear conception of these features as pertains to the venous circulation of the lower extremities is essential to successful management of varicosities.

The veins of the leg are arranged in two communicating circulations, the deep and the superficial. The former lies beneath the deep fascia, its component veins accompanying their respective arteries. The superficial set is located peripherally to the fascia lata and constitutes the system of the great saphenous vein. Most important to remember is the fact that blood flows normally always from the superficial system into the deep as well as toward the sapheno-femoral junction. Communication between individual veins of the two systems is established through smaller vena comites, the so-called communicating veins.

The great and lesser saphenous veins are equipped along their courses with a "series of bicuspid valves, each pair of which supports the column of blood immediately above and removes the weight from the column below" (1). Similarly, the small communicating veins contain valves which allow blood to pass into the deep circulation but not to return.

From the Department of Surgery of Roper Hospital.

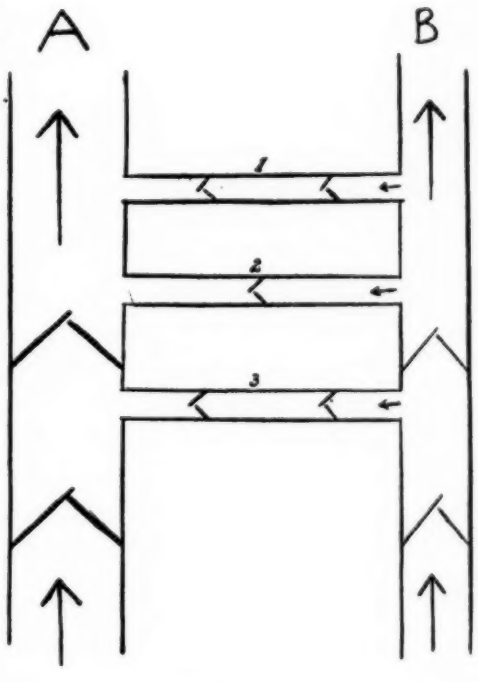


Fig. 1

*Figure* 1: *Diagrammatic representation of the arrangement of valves, the direction of blood flow and the communicating veins in the two systems. A—Deep vein. B—Superficial vein. 1, 2, 3,—communicating veins.*

Without discussion of the debatable hereditary or congenital tendencies, suffice it to say that incompetence of these valvular structures throughout the saphenous system is responsible for the tortuous dilatations eventuating in varicosities. In the presence of incompetent valves, force of gravity easily overcomes the sucking action of the diaphragm and the factor of muscular contractility, thus augmenting the pooling of blood throughout the superficial venous tree. Furthermore, the peripheral location of the saphenous vein and its tributaries robs it of the muscular compressing effect

enjoyed by the deep vessels, thereby adding to the likelihood of dilatation.

Of the saphenous valvular mechanism, individual mention will be confined to that valve at the sapheno-femoral junction. As aptly emphasized by Dodd (2), incompetence of this structure permits a retrograde flow under relatively high pressure. Obviously, such a flow causes dilution of injected sclerosing agents and combats thrombosis, and in large part is responsible for the inadequacy of injection treatments alone. Surgical technique in ligation must separate this vulnerable point from the several smaller saphenous tributaries entering the main vein at or near the fossa ovale (see discussion of technique below); if not, the patient will suffer reformation of new varicosities high in the thigh.

*Selection of Cases for Surgical Treatment.* Of importance in any surgical case is a general investigation of the patient. Those cases of varicose veins operated upon by the author were first tested through the surgical out-patient clinic for syphilis and diabetes. Complete urinalyses were made routinely. Active infection either at the site of complaint or elsewhere in the body was sought by routine leukocyte counts. Where syphilis was found, vigorous anti-luetic therapy was instituted and its effect especially observed in instances of leg ulcers accompanying the varicosities; cases showing no improvement in due course were treated by the ligation-injection method, all other factors being equal.

The vascular status of each patient must be carefully considered. Chief reliance is placed upon the Trendelenburg and Perthes tourniquet tests, the technique of which can be found in any standard textbook of surgery. By means of the former, the degree of competence of both the communicating valves and the saphenous valves can be determined. A double positive Trendelenburg (meaning that incompetence exists in both the sapheno-femoral valve and the communicating valves) is a contra-indication to high ligation alone, simply because a continued reflux of blood from the deep system into the superficial is thus allowed, nullifying efforts at obliteration of the saphenous tree. Such a complication is managed satisfactorily by ligation of the saphenous vein at two or more levels, depending upon the number and location of faulty connecting veins. On the other hand, a single positive Trendelenburg indicates saphenous incompetence but normal function of the communicating vessels; this situation is most amenable to treatment. Perthes' test furnishes an excellent means of judging the circulatory integrity of the deep system. Inability of the deep veins to handle an extra burden is, of course, a definite barrier to ligation therapy. Should extreme sluggishness of the femoral circulation exist, ligation of the saphenous vein may result in a generalized venous obstruction of the leg.

Patients excluded from the series treated by combined ligation and injection were those found unsuitable by the Trendelenburg and Perthes tests, the extremely obese, diabetics (unless well controlled) and individuals indisposed to receive follow-up treatment in the out-patient department.

From a standpoint of varicose ulcers no exclusion of cases has been made to date. Sedwitz and Steinberg (3), in an excellent presentation of this subject, list "old extensive, infected ulcers" among cases not managed by their ligation-injection therapy. On the contrary, such cases are accepted in this series, since most gratifying results from ligation are obtained after the foul secondary infection has been removed by bed rest, hot wet dressings and infra-red light treatment for a few days.

*Technique of Treatment.* Careful preparation of the operative site is advisable, due to its proximity to the vulva, scrotum, and fat-folds of the groin. After iodine and alcohol cleansing and infiltration with 0.5% novocaine, an incision is made transversely over the fossa ovale. A safe rule of location is: 1½ inches below Poupart's ligament and parallel to its medial third. By following this line, the surgeon is enabled to operate high and medially, a very important factor in proper exposure. The vein is located in the subcutaneous areolar and fatty tissue, superficial to the fascia lata. Its exposure is best accomplished by blunt dissection. Exposure of as many tributaries as possible in the vicinity of the fossa is desirable, and ligation above the highest tributary is es-

sential. Caution should be taken against unnecessary trauma to the fatty tissues in searching for small tributaries, a factor which favors wound infection.

Reference to Figure 2 reveals the necessity for high ligation, i. e. above the highest tributaries. Failure here invites recurrence of new channels.

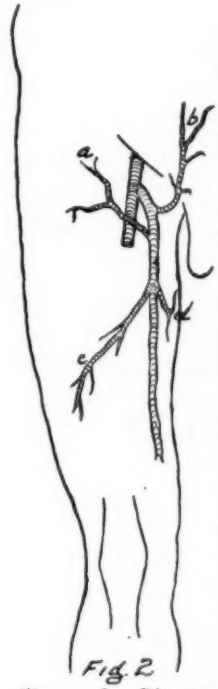


*Figure 2: Diagram of great saphenous vein and schematic representation of its tributaries (a, b, c, and d). Ligation should be made above a and b.*

After full exposure of the saphenous vein, it is bluntly dissected free up to the fossa ovale. All tributaries encountered are ligated and divided close to their junction with the main vessel. Two Halsted artery clamps are now placed on the saphenous vein about one inch apart, both above the highest tributary. The vein is divided between the clamps, the line of division being made closer to the distal one. The proximal stump is ligated as its clamp is removed, the ligature being made in the "crush." A transfixion stitch is then passed through the remainder of the proximal segment of vein, always being placed and tied distal to the ligature. By so doing, the surgeon protects his transfixion suture and furthermore, as discussed by Rogers (4), prevents thrombus formation about the strand of suture which traverses the lumen of the vessel. Such thrombosis, if allowed to occur, can extend concievably into the femoral vein, resulting in embolism. The proximal stump, having been treated in this way, is now allowed to retract and attention is turned to the distal segment. The clamp is removed, allowing the free end to gape open. In the majority of cases only a small amount of bleeding occurs from the opening, which is immobilized and held open by Allis forceps. A number 5 or 6 ureteral catheter is inserted into the vein and passed a distance of 40 to 60 cms. down the leg. The vessel is now tied snugly with a ligature, closing it around the catheter so as to avoid leaking of the sclerosing agent into the tissues of the wound. Through the catheter is injected a total of 8 to 10 cubic centimeters of sodium morrhuate (5% solution), the injection being made slowly and simultaneously with a gradual withdrawal of the catheter. This procedure was popularized by Pratt (5), and results in a more segmental and far-reaching sclerosis of the saphenous vein. As stated by Pratt (5), sclerosis of the deep circulation is not a danger since there must be stasis for such to occur and stasis is absent in competent deep veins. Upon withdrawal of the catheter, the ligature is drawn tight and tied. Any free vein remaining proximal to the ligature is excised, thus separating the two divided ends by 3 or 4 inches, including retraction. Closure of the wound is completed without drainage.

Because of the chemical thrombo-phlebitis and frequently attendant febrile reaction after retrograde injection, it has been found more desirable to keep the patient at bed rest, hospitalized, for 48 hours post-operatively. Several cases have been treated as ambulatory, being allowed up and around immediately after operation. Results have been more satisfactory in the hospitalized group.

To aid in obtaining even distribution of the sclerosing agent, an elastic adhesive (Elastoplast) bandage is applied from toes to thigh, its extension on the thigh being governed by the degree of varicosities present. This simple, uniform compressing agent promotes comfort in the phlebitic area, for cases treated without the bandage suffered considerably more disability. Reference is made to pressure as a means of relief for chemical phlebitis by Seigler (6) in his injection treatment of varicosities in pregnancy. The elastoplast is left in place until the first follow-up visit, a new one being applied at the end of this time. Ulcers offer no contra-indication to the bandage since they are rid of a large part of their secondary infection before operation; seepage from clean granulating ulcers beneath the elastic adhesive is surprisingly slight.

*Follow-up Treatment.* A careful checkup of the venous circulation of the leg should be made one week after ligation-injection treatment. The elastoplast stocking is removed and a search made for veins showing no thrombosis. All remaining varicosities should be injected at weekly intervals by simply puncturing the vein through the overlying skin and introducing 2 to 3 cubic centimeters of sodium morrhuate. As many of these weekly injections should be accomplished as may be necessary for complete thrombosis of all varicosities to occur. Where numerous injections are necessary, reapplications of adhesive stockings at each visit is helpful in promoting sclerosis. Healing ulcers require little more attention than common cleansing, once thrombosis is well established.

*Allergic Reactions to Sodium Morrhuate.* Much has been written about the dangers of sodium morrhuate (Holland (7), Lewis (8), Zimmerman (9), and others). While not the ideal drug for injection therapy, it has given excellent results in this hospital as far as varicosities per se are concerned, and no serious allergic reactions have been noted to date. In addition to the anaphylactic potentialities of the drug, it has been stated by some that the incidence of pulmonary embolism following its use is greater than following use of certain other sclerosing agents. This dangerous factor is eliminated, as noted by Taylor (10), by the routine practice of high ligation prior to injection.

*Results and Statistics.* Prior to the adoption of retrograde injection, many cases of varicose veins were treated at Roper Hospital by high ligation alone of the saphenous vein. Twenty-four cases so managed have been investigated and results tabulated as a means of comparing this form of management with the combined ligation-injection method. All cases reported have been followed for from three years to eight months post-operatively. An effort has been made to compare cases with leg ulcers having lesions of roughly the same dimensions, so as to evaluate more accurately the time element concerned in healing and the percentage of recurrence.

Those cases manged by high ligation alone numbered 24 patients; 12 showed leg ulcers, while 12 showed only varicose veins. Follow-up studies in this group revealed the following statistical results:

(1) Thrombosis of varicosities was clinically complete within 5 days in 6 cases (25%); incomplete in 18 (75%).

(2) Ulcers healed in 7 cases (58.3%).

(3) Ulcers were unhealed but improved in 3 cases (25%).

(4) Ulcers were unhealed and unimproved in 2 cases (16.6%).

(5) The average healing time of ulcers was 6 weeks.

(6) Recurrence of ulcers occurred after healing in 3 cases (25%).

Those cases managed by high ligation plus simultaneous retrograde injection through an ureteral catheter numbered 18 patients; all showed at least one leg ulcer equivalent in size to the ulcers present in the above group. The results obtained were as follows:

(1) Thrombosis of varicosities was clinically complete within 5 days in 14 cases (77.8%); incomplete in 4 (22.2%).

(2) Ulcers healed in 16 cases (88.9%).

(3) Ulcers were unhealed but improved in 2 cases (11.1%).

(4) Ulcers were unhealed and unimproved in no cases.

(5) The average healing time of ulcers was 3½ weeks.

(6) Recurrence of ulcers after healing occurred in no cases.

*Summary.* (1) A practical knowledge of the anatomy and physiology of the venous circulation in the legs is a prerequisite to the proper surgical management of varicose veins. Most important points are the relationship to each other of the deep and superficial venous systems as regards direction of blood flow, communicating vessels and function of valves.

(2) Careful pre-operative selection of cases must be made. Only those patients having a normally functioning deep circulation are amenable to ligation-injection treatment.

(3) The surgical procedure must include a high ligation of the saphenous vein. To insure against recurrence, ligation must be performed above the highest tributary. Retrograde in-

jection produces more satisfactory sclerosis when accomplished with the aid of an ureteral catheter.

(4) The use of elastoplast bandage post-operatively produces greater comfort, more freedom of locomotion and less likelihood of extensive chemical phlebitis.

(5) Bed rest for 48 hours post-operatively has given better results at this hospital than ambulatory privileges.

(6) Results are uniformly better in cases managed by combined ligation-injection than by ligation alone.

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NOVEMBER 1940


## PROGRESS OF THE MEDICAL PREPAREDNESS PROGRAM

South Carolina has been forging to the front in recent weeks on every phase of the preparedness program but particularly from the medical point of view. It will be noted elsewhere in this issue of the Journal that an extraordinary meeting was held in Columbia on October 14, of the State and County Committees on Medical Preparedness at which Governor Burnet R. Maybank was a guest speaker. This particular meeting set the pace in a most enthusiastic way for any call the state or the nation may make on the medical profession. It was indeed an historic event. The Governor was at his best as a gracious speaker and explained very clearly the implications of the selective service law. He paid tribute to the loyalty and patriotism of the medical profession and assured the members of the Conference that he would continue to cooperate with the doctors of the State in their efforts to serve their country in this way.

At this writing the officers of the South Carolina Medical Association feel that the contacts not only with the Governor but with General Holmes, head of the Selective Service organization and Colonel Barnwell, Medical Aid to the Governor, have been mutually helpful in deciding the policies involved in the appointment of medical personnel to the various draft boards of the State. As is well known the Governor of each State is solely responsible for these medical appointments and the selection of some two hundred physicians out of about a thousand active practitioners, avoiding as far as possible doctors in the draft age, also officers of the Reserve Corps and whole time public health officials, presented a most difficult responsibility.

Under the selective service act there is no authority, so far as we know, for confining these appointments to the members of organized medical societies but in looking over the list one is impressed that very few appointees are not members in good standing in the State Medical Association and this is probably true throughout the country.

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## LET'S GET THE A. M. A. QUESTIONNAIRES ALL IN BEFORE CHRISTMAS

The latest check up is not available for South Carolina as to the percentage of questionnaires returned to the headquarters office of the American Medical Association but there is ample evidence that great progress has

been made since the last report of 44%. Greenville City has gone over the top with 100% and the County 74%. A few days ago Anderson County checked in 98% with no let up until the other two have been secured. In Charleston it is reported that every doctor has now been given another opportunity to send in a questionnaire in the event that it has not been done. There has been a speeding up of interest in every section of the State in this matter. The officers of the State Association and the committees on preparedness have been extremely active both by personal visitations and by correspondence to the end that every licensed physician in South Carolina may have the opportunity to respond to this very important request. The members of the Council have all been interested in their respective districts as is shown by one such member in the following letter sent to every licensed physician in the eighth District:

Orangeburg, S. C.

October 15, 1940

Dear Doctor:

The War Department is very anxious to cooperate with the American Medical Profession in the present preparedness program. In event of War, the War Department wishes to avoid the many unfortunate situations which arose during the last War, at which time men were placed in positions in the army with which they were not familiar. It is also now a generally accepted fact that the entire population must take part in the present type of War and it is very necessary for all physicians, even though they may never see service with the armed forces, to register with the American Medical Association their qualifications.

Several weeks ago you were sent a circular form by the Preparedness Committee of the American Medical Association. If you have filled out this form and returned it to the proper authorities that is all we wish. If you have not filled out the form and still have it please do this at once. If you have not received the form or have lost or misplaced it before filling it out write me and I will get another one for you.

South Carolina has fallen way behind most of the other states in the Union in filling out these questionnaires and we are very anxious to have all doctors registered.

With best personal regards,

Fraternally yours,

Lawrence P. Thackston, M. D.
Councilor of the Eighth District
South Carolina Medical Assn.

# EYE, EAR, NOSE AND THROAT

J. F. TOWNSEND, M.D., F.A.C.S., CHARLESTON, S. C.

## THE COMMON COLD

An Evaluation of an Oral Vaccine Based on a Controlled Study. Dr. C. I. Stafford, Digest of Ophthalmology and Otolaryngology, October, 1940, p. 956 (The Journal Lancet, July, 1940, p. 319-324)

There has been much written of the value of vaccine treatment for the prevention of the "common cold." There have been sold, as a consequence, vaccines of many kinds, sold with directions for injection and some benefit from these vaccines have been reported. The oral administration of vaccines avoids many of the inconveniences of use. Dr. Stafford gives a report on the controlled study of the use of orally administered vaccine for the prevention of the "common cold." The study was in part to help to determine the extent of protection produced and the duration of the protected period.

There have been, as the years have passed, many failures in desirable results. Some claiming marked success and some a noticeable lack of benefit. Maybe the paragraph next quoted will give a hint as to the reasons for diverse results being reported.

"For the first ten weeks no great protection had yet been conferred by the vaccine. During the following eight weeks a severe epidemic of colds occurred which is evidenced by the control curve. Yet the students who had taken the oral vaccine remained practically unaffected. For only one week during the eight week period was the cold incidence of the oral vaccine group more than one third that of the control group. During no single week did more than 4.3 per cent of the oral vaccine group have a severe cold."

One point to emphasize in this paragraph is that for the first ten weeks' no great protection had yet been conferred by the vaccine. That fact may account for the diverse results.

"For the remaining four weeks of the test period and for three additional weeks for which the data was incomplete the cold incidence continued to be less in the oral vaccine group but the difference between the two groups in this respect was no longer very great. It appears that about this time the protection afforded by the oral vaccine was rapidly decreasing." Further on he advises using the vaccine from summer until spring—thus the protection would be continued.

"It is evident that students who took the oral vaccine had, on the average, less than one-fifth as many severe colds as the controls. About the same degree of benefit was obtained with respect to average total days illness from severe colds. Eighty-nine per cent of the students who took oral vaccine had no severe colds at all during this period as compared with only 48 per cent of the controls."

"It is evident also that approximately three months elapsed after taking the tablets until the time when a marked difference between the experimental and the control groups became very apparent and a period of protection could be confidently recognized."

"It seems, then, in order to secure maximum protection with this oral vaccine against severe colds, that administration should be begun in midsummer, and continued through the year until spring. There can be no doubt that this oral vaccine afforded marked protection against an epidemic of severe colds reducing not only the number of colds experienced but also the days illness suffered by those affected. The vaccine seemed to be most effective in protecting against severe colds; the incidence of mild colds was not affected."

To take vaccines for so long may to some seem rather a drawn out treatment but to others who have each winter suffered from the effects of colds a medical treatment of that duration is preferable to a continuance of office treatments for just as long.

"Each student was supplied with a bottle containing 20 tablets and he was instructed to take one tablet each day for the first week, then two weekly for six additional weeks. The tablets were to be taken at least a half hour before breakfast.

# Pathological Conference, Medical College of the State of South Carolina

KENNETH M. LYNCH, M. D., PROFESSOR OF PATHOLOGY

October 18, 1940
*Case of Dr. J. J. LaRoche*
*Clinical Record by Student*
ABSTRACT NO. 421 (63076)

Student M. B. Hook, (presenting):

History: A 20 year old, white, married woman admitted at 10:25 P. M. on 2-4-40 in a comatose condition. History obtained from husband and sister. Patient had been married for 5 months and was apparently in good health until the evening of her admission. Husband stated that during the night the patient said she felt nauseated and was going to vomit, got out of bed, vomited several times, fell to the floor and had a convulsive seizure. She became comatose and did not regain consciousness. Patient had no other convulsions at home. Family unable to describe convulsion except that she "got stiff and her hands clenched." Family stated that the vomitus appeared bloody.

Physical: T 97 (R) P 93 BP 150/60 R 32.

Examination revealed a very well developed and well nourished deeply comatose young white woman. Eyes deviated laterally and upward. Pupils pin-point and did not react to light. There was a small bleeding laceration of the buccal mucosa. The pharynx was not visualized. The neck was not stiff. Respirations were deep and stertorous and loud ronchi tended to obscure the bronchovesicular breath sounds. No dullness present. The heart was not enlarged, rhythm regular; no murmurs. The abdomen was soft and flat. No masses or scars. The extremities were hypertonic and none were moved by the patient. There was a poorly sustained ankle clonus bilaterally. Babinski present bilaterally. Deep reflexes symmetrical and hyperactive. No Kernig.

Laboratory: Lumbar puncture: Initial pressure 400-450. Dynamics not tested, but free excursions present with respirations. Three c. c. of grossly bloody fluid slowly removed.

Course: Patient had a light convulsion lasting 1½ minutes following admission. Pulse slowly rose to 120. Respirations ranged around 32. BP 130/60 at 3 P. M. and rose to 200/110 by 8 A. M. Patient expired at 8:25 A. M. on 2-5-40.

Dr. Remsen (Conducting): Mr. Cone, how would you summarize what we know about this case in a few sentences?

Student Cone: I would say that we were confronted with the problem of an apparently healthy young person who suddenly develops the signs and symptoms of an intracranial catastrophe with the development of neurological changes and the escape of blood into the subarachnoid space. The age of the patient, the abrupt onset, and the rapid termination from steadily increasing intracranial pressure point to the rupture of a congenital aneurysm of the Circle of Willis.

Dr. Remsen: It is important to remember that a number of subarachnoid hemorrhages occur that never show any neurological findings. Intense headache is a very characteristic symptom.

Miss Riley, what do you think was the location of this hemorrhage?

Student Riley: I think it was intraventricular. Hemorrhage into the ventricular system with resultant dilatation of the aqueduct and third and fourth ventricles may interfere with the function of the pons and cause pin-point pupils. Actual hemorrhage into the pontine region will constrict the pupils from irritation of the third nerve nucleus. Of course morphine might be the causative agent, but we have no indication that the drug was given at home or in the hospital. Intraventricular hemorrhage is also indicated by the rapid manner in which the patient died and by the negative Kernig which suggests the absence of meningeal irritation. The suddenness and brevity of the prodromal symptoms also point to this location.

Dr. Remsen: Mr. Sandifer, what is your opinion?

Student Sandifer: I agree with the diagnosis of intraventricular hemorrhage. I think that the deviation of the eyes might help in localization of the lesion. Oculomotor nerve involvement would interfere with the function of the superior, internal and inferior recti and the inferior oblique muscles which would result in lateral deviation of the eyes.

Dr. Remsen: Do you think that the rupture of a blood vessel lying close to the ventricles might cause these findings just from the hemorrhage and edema and without any actual nerve injury?

Student Sandifer: Yes, I believe so.

Dr. Remsen: What other etiological factors are to be considered?

Student Sandifer: The age of the patient certainly suggests a congenital aneurysm. I do not think that syphilis is at all common as a causative agent in this type of case. An aneurysm or the rupture of a vessel on an arteriosclerotic basis is not at all likely in a patient of this age and we have no indication that the peripheral vessels showed any sclerotic changes.

Dr. Remsen: Mr. Holly, can you add anything to this?

Student Holly: A congenital aneurysm of the Circle of Willis certainly is the most likely diagnosis. Hemorrhage into the subarachnoid space may

block the proper drainage of the cerebro-spinal fluid, cause increasing pressure in the ventricular system and interfere with the passage of impulses along the cilio-spinal tract which would result in the removal of the dilatory mechanism and hence the pupils would be constricted.

Dr. Remsen: This is a fine point of neuro-anatomy and pathology and I believe that we are dealing with a harsh, gross lesion which does not warrant such a technical explanation for its effects.

Mr. Holly, what usually happens to these cases of subarachnoid hemorrhage?

Student Holly: If they do not expire during the first episode they have subsequent attacks, often with increasing frequency, and eventually die.

Dr. Remsen: What about the possibility of a mycotic aneurysm?

Student Holly: I am not well acquainted with this condition, but it merits mentioning, although we have nothing pointing toward such a possibility.

Dr. Remsen: Mr. O'Cain, can you add anything to the discussion?

Student O'Cain: The four possible types of aneurysm have already been mentioned. Certain cases of purpura give rise to subarachnoid hemorrhage, but we have no history or significant findings in the physical examination that suggests this as the etiological agent.

Dr. Remsen: Do you think that syphilis can be ruled out?

Student O'Cain: Yes, I believe so. It takes time for an aneurysm to develop and I would certainly expect its occurrence to take place after the age of thirty-five. Furthermore thrombosis is the most likely sequel to syphilitic involvement of the cerebral vessels.

Dr. Remsen: Do you think the fluctuating BP is significant?

Student O'Cain: The reading of 150/60 shows a wide pulse pressure which I think is in keeping with cerebral hemorrhage and increasing intracranial pressure. The vasomotor centers in the medulla constrict the peripheral vessels so that an adequate blood supply may be assured the vital centers. The continuance and progression of the level of the blood pressure indicates an increasing amount of hemorrhage and an attempt of the vasomotor centers to forestall the curtailment of blood supply to the vital regions in the brain. I don't think we necessarily have to have an intraventricular hemorrhage in this case. The same sort of thing occurs in brain injuries with relatively little hemorrhage due to the enormous edema which may occur.

Dr. Remsen: How do you exclude subdural hematoma?

Student O'Cain: I would not expect to find blood in the subarachnoid space and I would expect to have some more definite localizing signs and an history of injury.

Dr. Remsen: Dr. Kredel, if no history was available from the family in a case of this sort how would you rule our subdural hematoma?

Dr. Kredel: I think the lack of lateralizing signs would be one of the most important aids.

Dr. Remsen: I am under the impression that there is a rapid fall in the spinal fluid pressure after the removal of a relatively small quantity of fluid in a subdural hematoma, whereas in a subarachnoid hemorrhage the removal of a large amount of fluid is required before the pressure drops.

Dr. Kelly: What is the mechanism of the cause of death?

Student O'Cain: I would say that it was respiratory failure due to a failure of the circulation to adequately supply the respiratory center.

Dr. Smith: How do you explain the vomiting of blood?

Student Sandifer: The saliva or vomitus became mixed with blood from the lesion of the buccal mucosa. I do not think that there was true hematemesis and the family certainly gave no detailed description of the vomitus.

Dr. Kelly: This may not be worth mentioning, but bleeding into the subarachnoid space does not always come from around the Circle of Willis and it has been observed that bleeding from other points in the cerebral circulation usually come in earlier age groups, such as in the case we are discussing at present.

Dr. Lassek: How may the bilateral Babinski be explained?

Dr. Kredel: Hemorrhage into the ventricles with increasing pressure and distension of these cavities might so interfere with the nervous pathways as to produce these changes.

Dr. Lassek: It would seem that pressure around the brain stem might also be another possible explanation.

Dr. Lynch: (Demonstrating brain specimen) It is not surprising that there was some differance of opinion as to the localization of this lesion for it was in all three of the possible locations that have been mentioned, subarachnoid space, within the brain, and intraventricular; nor did you miss it so far as regards the diagnosis of a congenital aneurysm for it was a congenital anomaly. Here you see a cavity in the right frontal lobe containing fresh hemorrhage which comes within 3 mm. of the brain surface and which has ruptured through into the anterior horn of the lateral ventricle. The hemorrhage was caused by the rupture of one of a dilated group of veins which may be termed a cirsoid aneurysm. There are a variety of interpretations as to what a cirsoid aneurysm really is. It is described by some as a group of dilated arteries, others think of it as a collection of dilated veins, and still others use the term to designate the dilated vessels resulting from a communication between artery and vein. At any rate this was a group of dilated or varicose veins. A branch of the right terminal vein was completely severed and partially thrombosed and when the distal end of this severed

branch was traced into the brain substance it was found to lead into a plexus of six or more dilated veins varying from less than 1 mm. to 8 mm. in diameter. The ventricular system, the basal cisterns, and subarachnoid space about the pons are completely filled with blood. (Microprojection) Here you see a portion of the brain and meninges with the latter containing dilated venous channels and a greater number of veins than one expects to find in this location. Undoubtedly the vein first ruptured into the frontal lobe causing the prodromata which the patient experienced and then as bleeding continued with destruction of the cerebral tissue, rupture into the ventricles occurred which rapidly led to the patient's death.

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## PRESENT DAY OPPORTUNITIES OF SERVICE FOR A DOCTOR'S WIFE

*Mrs. C. P. Corn, President Southern Medical Auxiliary, Greenville, S. C.*

In thinking of the present day opportunities for service for a doctor's wife, I am reminded of a remark which Dr. Rock Sleyster, President of the American Medical Association made in his address to the National Auxiliary in St. Louis, Missouri last May. He said, "No single influence helped a doctor so much as his wife and his home. Here she may create a comfortable and congenial atmosphere, nourishing not only the physical needs of her physician husband and her family, but also their mental and spiritual requirements." So we agree with Dr. Sleyster that the first and foremost opportunity for service is in the home, sharing his life dedicated to the professional call. We realize she must be a person of idealism and altruistic aspirations, else she would not have married a doctor—for the practice of medicine grew out of a sympathy for humanity and a desire to relieve suffering and distress.

The doctor's wife is to her husband as Longfellow's Minnehaha to Hiawatha:

> "As unto the bow the cord is,
> So unto man is woman.
> Though she bends him, she obeys him,
> Though she draws him, yet she follows
> Useless each without the other."

The true doctor's wife, like the faithful physician, himself, will never be a slacker and her greatest opportunity for service, outside her home, is in working shoulder to shoulder with her husband in his altruistic efforts to eradicate disease and, in so doing, add happiness and prosperity to all those about her.

Secondly, one of the greatest privileges and opportunities for service comes through the Woman's Auxiliary to the doctor's wife, by creating and maintaining healthy contacts between the public and the medical profession. The auxiliaries are the doorways into lay groups. Women's organizations are knocking at the doorways and asking for guidance. The medical profession has an opportunity to enter and be the instructor, the guides. Communities and individuals are health-conscious and wish information. I heard some one say the other day that a girl from birth to the age of 14 needed her mother. From the ages of 14 to 40—she needed beauty—from 40 to 60 she needed personality and from 60 on, she needed money. This is all true, and well she might have added that she needed good health always.

If asked to be chairman of a health program in your club, gladly accept this, for it is an op-

Note: This address was delivered before the South Carolina Medical Auxiliary, Charleston, S. C., May 1, 1940, and has also been given at a number of other State Conventions.

portunity to help plan a wise and sane program which suits your community. If every doctor's wife would sponsor one worth while authentic health program each year, our foundation would be a substantial one. Stress, or sponsor, if necessary, periodic health examinations for school children, or prenatal work, or the summer round-ups.

For the adults, too much stress cannot be made on health examinations for in this hurry scurry of life, they do not take time to have a physical examination. Statistics show that one out of every six applications for life insurance is declined or postponed. Get the disease before it gets you. One does not want to be like the man who—

"To get his wealth
He spent his health,
And then with might and main
He turned around,
And spent his wealth
To get his health again."

With agitation for socialized medicine, it behooves us as doctor's wives to give watchful assistance in any plans to keep the profession secure. Familiarize yourself with the facts regarding socialized medicine so as to be able to converse with people on this subject when there is need for it. Let us keep abreast of the times and be worth while citizens to make the world a better place in which to live.

The Chairman of Legislation in the National Auxiliary has asked each doctor's wife to be a registered voter. We should assume this responsibility as citizens, because democracy can function only when all the citizens vote intelligently. At this time everything that enters into our lives, schools, homes and jobs, comes under the jurisdiction of some governmental agency. What they do in the City Hall, the State House, and the Capital at Washington has a bearing on our plans for our children and ourselves. Banded together, our combined strength may be able to accomplish much. So I hope we shall feel that another of our opportunities for service is to be a registered citizen in 1940.

Another opportunity for service that we do not want to overlook is that we as women, and mothers of the race, can do much to forward peace in this world which is war torn in so many countries. I quote from an editorial in "The Critic" in "The New Statesman" and "Nation," London which says: "Here is a thought provoking question from deepest Africa. An English Missionary in a chat with an old negro cannibal of the tribe of Niam-Niam, told him of the enormous number of victims of the World War. "How could you eat so much human meat?" questioned the cannibal. "We, whites, do not eat human beings," answered the missionary. "Well then. what did you kill them for," asked the cannibal in great astonishment.

As members of the Southern Medical Auxiliary, our opportunities are again before us in continuing to uphold our two main objectives that we sponsor. These you are familiar with, but I shall mention them briefly, The Research and Romance of Medicine, and The Jane Todd Crawford Memorial.

In the work of Research and Romance of Medicine, all good medical and historical papers given in the various auxiliaries of the 17 states comprising the Southern Medical Auxiliary are sent in each year and filed, making what is known as "The Southern Auxiliary Lending Library." Any member is privileged to borrow any of these articles for program material at any time. A list of the papers is kept on file of the ones on hand and the ones loaned out. Last year 147 papers and clippings were mailed out to 37 auxiliaries in 11 of the states. This has proven to be one of the most helpful features of our Southern Auxiliary work. Mrs. Leslie Moore, 4202 Beverly Drive, Dallas, Texas, is Chairman of this work.

The Southern Medical Auxiliary has long been working toward a fitting memorial for the brave woman, Jane Todd Crawford, who in 1809 submitted to the first ovariotomy without an anesthetic.

There is $1169.73 in the J. T. O. fund in the Southern Medical Auxiliary Treasury now, and a committee is functioning to decide on some form of memorial for this pioneer heroine of surgery. $1,000.00 of this amount in the Treasury was contributed by Kentucky 2 years ago. I trust that each state in our Southland will see fit to give a small amount this year toward this Southern Auxiliary memorial. Mrs. Luther Boch of Bellevue, Kentucky, is chairman of this work.

Lastly, we do not want to neglect our social part, for friendship is the basis on which our Auxiliary was founded. There is nothing sweeter than the communion of friend with friend. The joy that is created by the companionship of those of like ideals and ambitions creates an atmosphere that lingers in the heart like sweet perfume. Some one has asked, "What is fellowship?" and the best definition was—"Two fellows on the same ship."—that's fellowship.

Edwin Markham has said:

"There is a destiny
That makes us brothers
None goes his way alone
All that we send into the lives of others
Comes back into our own."

So, we as doctor's wives find our opportunities for services in our present times, many and varied. May we feel that although individually we can accomplish little, we can pool our efforts in the interest of efficiency and that in the end our assets will outweigh our liabilities, and that although we have given much, we too, have received.

In closing, I am borrowing the following recipe for a club sandwich which I think will also be

appropriate for our Auxiliary members, only I shall call it an Auxiliary Sandwich:

Take 2 ounces of Jollity; 1 large package of Unity; 3 cups of Neighborliness; 2½ heaping tablespoons of Interest; 2 pinches of Originality; 1 cup of Reasoning; (sifted 3 times) and a portion of Sincerity.

DIRECTIONS:

Mix Jollity, Unity and Neighborliness well in a large bowl. Add Interest steadily, but not too slowly. When the batter gets smooth and shiny, dash in the Originality. Next, add evenly the Reasoning. (Be sure to sift 3 times.) Then make the sandwiches. But, before serving garnish with a generous amount of Sincerity. Try it and see how it works.

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## REPORT OF EXECUTIVE BOARD MEETING HELD, COLUMBIA, S. C., OCTOBER 15, 1940

A meeting of the Executive Board of the State Auxiliary to the South Carolina Medical Association was held at the Columbia Hotel, Columbia, S. C., Tuesday morning, October 15, at 10 o'clock in the Ladies Parlor with twenty members present.

The meeting was opened by the President, Mrs. H. L. Timmons of Columbia. Invocation was conducted by Dr. E. A. Hines of Seneca. The President gave a detailed outline of her plans and objectives for the year, also a report on her work since coming into office.

Dr. Hines was then presented and gave a splendid talk on Jane Todd Crawford. He told of the development and beautification of the Jane Todd Crawford Memorial Trail. He also spoke of the significance of supporting the Student Loan Fund since there is a constant and increasing need for well trained and efficient medical men. He called attention to the fact that with the gloom of war constantly before us and the establishment of camps we should devote special time and thought to health programs. He paid marked tribute to the valuable cooperation of doctors' wives referring to this influence properly directed as ideal to the medical profession as a whole. He urged the Auxiliary to continue with the History of doctors.

A letter was read from the President of the Southern Medical Auxiliary, Mrs. C. P. Corn of Greenville, giving plans for the convention to be held in Louisville, Kentucky in November.

The President announced the dates of the South Carolina Medical Association convention to be held in Greenville, April 16-18, 1941 during which time the Auxiliary will also convene.

The meeting was then adjourned and a delicious luncheon was served in the Hotel dining room by the Columbia Medical Auxiliary.

Miriam Sanders
Mrs. J. L. Sanders, Publicity
Secretary, S. C. Medical
Auxiliary.

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## EDISTO MEDICAL SOCIETY MEETING

The Edisto Medical Society met at the Hotel Eutaw, Wednesday, August 28, 1940, at 2:00 P. M. Those present were: Drs. Black, Eargle, Truluck, Boatwright, Harter, Willis, Thackston, Brabham, Geiger, Symmes, Browning, Whetsell, and guest speaker, Dr. K. M. Lynch of Charleston, S. C.

Dr. Truluck introduced the guest speaker, Dr. K. M. Lynch, Head of the Department of Pathology, Medical College of the State of South Carolina, Charleston, S. C. Dr. Lynch gave a most helpful discussion on Acute Appendicitis stressing the importance of early diagnosis and the proper management of such cases. He discussed, in a very practical way, the etiological causes and the pathological changes which take place in a diseased appendix. Drs. Boatwright, Thackston and Brabham followed in the discussion of this subject.

The program committee for the September meeting was announced. There being no further business the meeting adjourned.

# BOOK REVIEWS

OTOLARYNGOLOGY IN GENERAL PRACTICE by Lyman G. Richards, M. D.

This is a book that is hard to write. It is very difficult for an author to write — and for an otolaryngololgist in reviewing a book—to know exactly where to draw a line as to what should be included and as to what should not be included in this book to help the general practitioner. There are many things that Dr. Richards has mentioned that helps; some simple ones—but they tell how to use your instruments. How to wind cotton on an applicator. The drum membrane in purulent otitis media should be incised, not punctured. A few tips on when a middle ear infection is becoming an operative mastoid infection. With regards to polypoids of the middle ear—general practice had better let them alone. Dr. Richards has a potent chapter on the causes of deafness and tells of the care of the ears in contagious diseases—a subject neglected by some general practitioners to the loss of the patient. He explains an effective method of nasal packing for epistaxia and discusses "nasal discharge" including that in children at length. To be brief, Dr. Richard's book has much of value in it for the general practitioner.

Dr. Jno. F. Townsend, Charleston, S. C.

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VITAMIN THERAPY IN GENERAL PRACTICE by Edgar S. Gordon, M. D., M. A., Associate in Medicine and Instructor in Physiological Chemistry, University of Wisconsin and Elmer L. Sevringhaus, M. D., F. A. C. P., Professor of Medicine, University of Wisconsin. The Year Book Publishers, Inc., 304 South Dearborn Street, Chicago, Illinois.

The story of the vitamins continues to be a fascinating one and this book summarizes in an admirable way all that is known about them. The real idea however has been to place this knowledge at the disposal of the general practitioner for he it is who sees most of the deficiency diseases first. There are several very important illustrations and many valuable tables on food values. Dental problems have been given consideration in this book and also the economics of nutrition discussed. These year books fill an important place now in the busy doctor's armamentarium. The books are now beautifully bound and the printing very readable.

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SYNOPSIS OF MATERIA MEDICA, TOXICOLOGY, AND PHARMACOLOGY. For Students and Practitioners of Medicine. By Forrest Ramon Davison, B. A., M.Sc., Ph.D., M. B. Assistant Professor of Pharmacology in the School of Medicine, University of Arkansas, Little Rock. St. Louis. The C. V. Mosby Company. 1940. Price $5.00.

This is an excellent epitome of our knowledge of drugs and allied therapeutic measures for use by the practicing physician and also for a quick and ready reference on the part of the medical student. While the older remedies have been given due consideration the newer discoveries have been given deserved emphasis. There are many valuable tables and illustrations. This is indeed a handy volume for quick reference.

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DR. COLWELL'S DAILY LOG FOR PHYSICIANS. A brief, simple, accurate financial record for the physician's desk. Colwell Publishing Company, Not Inc., Champaign, Illinois. Price $6.00 for one volume (one daily page per day of thirty-six lines). $11.00 for two volumes (two daily pages per day of 72 lines).

The 1941 edition of this book is beautifully and attractively bound with several pages in the front of the volume instructing the physician as to how to put the book to the best possible use. In addition to space for recording visits of patients, inoculations, surgical procedures, appointments and expenses, there is a place each month for recording social security taxes. A new feature this year is the addition of very small booklets which may be ordered for patients who wish to make weekly or monthly payments on medical services. Cards may be secured for recording individual visits and clinical data about the patient.

# SOUTH CAROLINIANA

J. I. WARING, M.D., CHARLESTON, S. C.

**A FORGOTTEN MEDICAL EDITOR—EDWIN SAMUEL GAILLARD, by E. F. HORINE. ANN. MED. HIST. 3D SER. 2:375, SEPTEMBER, 1940.**

A readable account of a native South Carolinian, graduate of the Medical College in 1854. Dr. Gaillard became a prominent and brave Confederate surgeon, holding high position and suffering the loss of his arm. After the war he edited in succession several high class medical journals, among them the well-known Gaillard's Medical Journal, which continued in existence under his name until 1911 and ran through its ninety-third volume.

**FRACTURES OF THE NECK OF THE FEMUR TREATED BY INTERNAL FIXATION WITH ADJUSTABLE NAILS: END RESULT STUDIES, by A. T. MOORE AND J. T. GREEN. COLUMBIA. SOUTH. SURGEON 9:684, SEPTEMBER, 1940.**

From study of 148 cases the authors conclude this method to be the one of choice—90% of cases showed solid bony union, despite co-existing systemic difficulties such as senility and cardiac disease.

**THE HUMAN PYRAMIDAL TRACT: II A NUMERICAL INVESTIGATION OF THE BETZ CELLS OF THE MOTOR AREA, by A. M. LASSEK. CHARLESTON. ARCH. NEUROL. & PSY. 44:718, OCTOBER, 1940.**

An anatomical study.

**IS THE MORTALITY RATE OF ACUTE APPENDICITIS INCREASING, by J. R. YOUNG. ANDERSON. SOUTH MED. & SURG. 102:479, SEPTEMBER, 1940.**

Experience at the Anderson County Hospital indicates that the answer is no.

**MESENTERIC VASCULAR OCCLUSION IN CHILDREN: REPORT OF A CASE, by G. D. JOHNSON. SPARTANBURG. AM. J. DIS. CHILD. 60:640, SEPTEMBER, 1940.**

Sudden severe abdominal pain, with diarrhea, vomiting and collapse point to the presence of this condition. A fatal case which resembled intussusception is reported.

**OXYURIS INFESTATION, by J. I. WARING. CHARLESTON. ARCH. PEDIAT. 57:615, OCTOBER, 1940.**

Oxyuris becomes recognized as an extremely common intestinal parasite which produces effects more or less serious and as yet not entirely well determined. Better correlation of information in individuals is very desirable and further study of methods of treatment is necessary. Results of surveys in Charleston are given.

**PAINFUL SCARS, by F. E. KREDEL. CHARLESTON. SURGERY 8:98, JULY, 1940.**

Ten out of twelve cases of painful scars showed microscopic neuromas in excised tissue. Removal of the painful areas gave relief of symptoms.

**A PRACTICAL GRAPHIC METHOD OF RECORDING LEG LENGTH DISCREPANCIES, by J. W. WHITE. GREENVILLE. SOUTH. MED. J. 33:946, SEPTEMBER, 1940.**

Dr. White finds X-ray measurement much more satisfactory than the usual spine-to-malleolus method. Apparatus and technique are described.

**PRIMARY JEJUNAL ULCER, by F. E. ZEMP. COLUMBIA. SOUTH. MED. J. 33:803, AUGUST, 1940.**

A case report and discussion of this very rare condition.

**SICKLE-CELL ANEMIA IN FRACTURE, by W. C. HUNSUCKER AND D. JENNINGS. BENNETTSVILLE. SOUTH. MED. & SURG. 102:427, AUGUST, 1940.**

Report of a case in which the anemic manifestations were apparently precipitated by fracture of the femur. Response to therapy was good and healing of the bone was unusually rapid.

# SOCIETY REPORTS

## FOURTH DISTRICT SOCIETY MEETING

The Fourth District Medical Society held its annual meeting in Spartanburg, Monday, October 21, at the Cleveland Hotel. In the absence of the President, Dr. J. W. Bell of Walhalla, Dr. George R. Wilkinson of Greenville, Secretary, presided.

Dr. H. W. Koopman, President of the Spartanburg County Medical Society welcomed the doctors to the meeting and Dr. Hugh Smith of Greenville, Councilor of the Fourth District responded to the address of welcome.

The following scientific papers were read and discussed during the afternoon session. Vitamin K in the Newborn read by Dr. George D. Johnson of Spartanburg, discussed by Dr. Francis Owens of Union. Surgery in Diabetics read by Dr. George Tyler of Greenville, discussed by Dr. Sam Orr Black of Spartanburg. Minor Hematological Problems of Major Importance read by Dr. J. M. Feder of Anderson, discussed by Dr. P. M. Temples of Spartanburg.

After the afternoon session a Dutch supper was enjoyed by those present. Dr. W. I. Pressly of Due West, President of the South Carolina Medical Association and Dr. G. M. Truluck of Orangeburg, President Elect of the South Carolina Medical Association both made interesting talks. Their talks were followed by an address by Dr. Edgar A. Hines of Seneca, Chairman of the State Committee on Medical Preparedness and Secretary of the South Carolina Medical Association who choose as his subject "Medical Preparedness in Operation."

Dr. Hines in his address first presented the tabulation of questionnaires returned by each of the seven counties in the District all of which averaged a return to the American Medical Association of less than fifty per cent except Greenville. It was announced at the meeting that Greenville City had returned 100% of their questionnaires and Greenville County 74%. The average however, was about the same throughout the State. Dr. Hines discussed the need for doctors in the medical preparedness program now under way and particularly the status of the doctor in the draft age. Numerous questions were presented by members from the floor on the provisions of the selective service act with reference to the medical profession. There was an enthusiastic response on the part of the physicians present to the efforts of the State Medical Association to promote an adequate preparedness plan in South Carolina.

More than one hundred physicians were present, this being one of the largest meetings held by the Fourth District in many years. The following officers were elected to serve for the ensuing year, Dr. George D. Johnston, President, Spartanburg, S. C.; Dr. A. T. McElroy, Vice President, Union, S. C., and Dr. George R. Wilkinson, Secretary (reelected), Greenville, S. C.

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## FIFTH DISTRICT MEDICAL SOCIETY MEETING HELD AT MARION SIMS MEMORIAL HOSPITAL, LANCASTER, SOUTH CAROLINA

The Fifth District Medical Society met in the new Marion Sims Memorial Hospital at Lancaster, South Carolina, October 15, with Dr. R. L. Crawford, President, presiding.

After the invocation by Reverend D. M. Rivers and an address of welcome by Colonel R. S. Stewart the following scientific program was entered into. Dr. Carl A. West of Camden gave a paper on "A Discussion of the Pitfalls in the Diagnosis of Acute Abdominal Condition." Dr. S. H. Shippey of Rock Hill discussed "Intracranial Hemorrhage with Special Reference to Subarachnoid Hemorrhage."

Dr. Edgar A. Hines, State Chairman on Medical Preparedness for South Carolina and Secretary of the South Carolina Medical Association, was present and made some interesting remarks. He first complimented the spirit of advancement in Lancaster County as evidenced by the completion of the magnificent

structure, the Marion Sims Memorial Hospital, recalling the historical significance attributed to the locality. Dr. Hines then discussed the necessity of the medical preparedness program and asked for the cooperation of the doctors in seeing that it was carried out as it should be.

At the close of Dr. Hines' talk those present took an excursion trip through Lancaster's new 50 bed J. Marion Sims Memorial Hospital erected at a cost of approximately $300,000 and opened officially, June 8, 1940. The new institution was built as the result of a contribution from the Commonwealth Fund, a $70,000 fund raising campaign among Lancaster citizens and gifts from the interests of Captain Elliott White Springs and Captain John T. Stevens. The site was donated by the family of the late Colonel R. E. Wylie. It is furnished with the latest and most up to date equipment.

The Society then adjourned to the American Legion Hall where a turkey supper with trimmings to suit the palate, was served. After supper Dr. V. K. Hart and Dr. Jasper Stewart Hunt two guest speakers both of Charlotte, North Carolina, gave interesting talks. Dr. Hart's subject was "Bronchoscopy in Tuberculosis Tracheobronchitis" and Dr. Hunt's subject was "Prematurity." The scientific papers and the remarks of Dr. Hines were discussed at length by a number of physicians present.

A business session was held near the close of the meeting and Dr. W. B. Ward of Rock Hill was elected President for the ensuing year and Dr. E. E. Herlong of Rock Hill, Secretary.

# MEDICAL PREPAREDNESS

## LIEUTENANT COLONEL E. H. BARNWELL APPOINTED MEDICAL AID TO THE GOVERNOR IN SELECTIVE SERVICE ORGANIZATION

Lieutenant Colonel E. H. Barnwell of Wadmalaw Island was appointed medical officer for selective service headquarters by Governor Burnet Maybank.

In making the appointment the governor said that Colonel Barnwell comes to the position with a great deal of medical background as well as army experience.

"It is quite a pleasure for me to be able to appoint such an able South Carolinian as Colonel Barnwell to head up this most important department of selective service." The governor further said, "He is a doctor of wide experience and is thoroughly familiar with the organization and operations of the army having been a lieutenant colonel in the United States Reserve since 1925. I am sure he will serve the state well and faithfully."

Colonel Barnwell is an honor graduate of the Medical College of the State of South Carolina and in 1919 was placed in charge of the smallpox epidemic in the state doing an exceptional job in helping curb the disease.

In 1915 he was elected to the state legislature and served six years. He was chairman of the medical affairs committee and also of the state hospital committee. During his chairmanship and under Governor Robert A. Cooper the name of the institution was changed from the State Insane Asylum to the State Hospital.

During the World War Colonel Barnwell served on his local selective service board and was also medical examiner, personally examining every registrant appearing before the board. He was commissioned a Major in the Reserve Corps in 1925 and has seen active duty in 1929, 1932, 1933, 1935, 1936, 1937, 1938, 1939, and 1940.

He returned from the maneuvers of the Third Army in Louisiana during August and upon his return wrote Governor Maybank relative to entering active service and the governor has been in constant touch with him since that time.

Colonel Barnwell is a member of the Board

of Trustees of the Medical College of the State of South Carolina, a member of the Medical Society of South Carolina (Charleston County); the South Carolina Medical Association; the Southern Medical Association and the American Medical Association.

The governor said that Colonel Barnwell had been highly recommended by officers attending the maneuvers in August, where he showed marked administrative and executive ability.

The position had been first offered to Dr. John D. Smyser of Florence who telegraphed the governor that he would be unable to serve since it would necessitate his moving to Columbia and resigning the management of the Saunders Memorial Hospital.

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PRESENT AT THE MEDICAL PREPAREDNESS MEETING, COLUMBIA, S. C., OCT. 14, 1940

Dr. O. A. Alexander, Darlington
Dr. W. M. Bennett, Ruffin
Dr. Thomas Brockman, Greenville
Dr. Robert C. Brown, Lancaster
Dr. L. D. Boone, Aiken
Dr. A. J. Buist, Charleston
Dr. F. G. Cain, Charleston
Dr. J. P. Cain, Jr., Mullins
Dr. T. B. Carroll, Jr., Ridgeland
Dr. James Crosson, Leesville
Dr. Walter G. Crawley, Jr., Lancaster
Dr. M. W. Colgin, Charleston
Dr. T. M. Davis, Columbia
Dr. R. B. Durham, Columbia
Dr. J. B. Edwards, Swansea
Dr. Elliott Finger, Marion
Dr. W. T. Gibson, Batesburg
Dr. H. S. Gilmore, Nichols
Dr. Ed. H. Greene, Atlanta, Ga.
Dr. C. F. Goodwin, Holly Hill
Dr. D. C. Griggs, Pageland
Dr. J. T. Hair, Aiken
Dr. Thomas C. Hankins, Marion
Dr. J. C. Harper, Greenwood
Dr. J. P. Harrison, Cheraw
Dr. J. D. Harrison, Greenwood
Dr. J. C. Hill, Abbeville
Dr. E. A. Hines, Seneca
Dr. D. O. Holman, Timmonsville
Dr. J. N. Holtzclaw, Greenville
Dr. A. W. S. Humphries, Camden
Dr. Douglas Jennings, Bennettsville
Dr. A. W. Lowman, Denmark
Dr. R. B. Josey, Columbia
Dr. E. T. Kelley, Kingstree
Dr. Roderick Macdonald, Rock Hill
Dr. A. P. McElroy, Union
Dr. F. L. Martin, Mullins
Dr. W. H. Mathis, North Augusta
Dr. O. B. Mayer, Columbia
Dr. Walter R. Mead, Florence
Dr. W. E. Mills, Sumter
Dr. G. McF. Mood, Charleston
Dr. W. J. Perry, Chesterfield
Dr. T. A. Pitts, Columbia
Dr. A. E. Poliakoff, Abbeville
Dr. T. H. Pope, Newberry
Dr. J. R. Power, Abbeville
Dr. W. L. Pressly, Due West
Dr. J. P. Price, Florence
Dr. J. T. Quattlebaum, Columbia
Dr. E. D. Reynolds, Hardeeville
Dr. G. S. Rhame, Camden
Dr. W. K. Rogers, Loris
Dr. M. H. Rourk, Myrtle Beach
Dr. C. J. Scurry, Greenwood
Dr. J. C. Sease, Newberry
Dr. H. B. Senn, Newberry
Dr. F. G. Shaw, Camden
Dr. F. K. Shealy, Clinton
Dr. L. M. Stokes, Walterboro
Dr. H. P. Smith, Greenville
Dr. B. C. Teasley, Hartwell, Ga.
Dr. L. P. Thackston, Orangeburg
Dr. A. P. Traywick, Cameron
Dr. G. M. Truluck, Orangeburg
Dr. W. P. Turner, Greenwood
Dr. G. T. Tyler, Jr., Greenville
Dr. W. R. Wallace, Chester
Dr. J. N. Walsh, Moncks Corner
Dr. J. I. Waring, Charleston
Dr. A. C. Watson, Greenville
Dr. J. B. Watson, Columbia
Dr. G. R. Westrope, Gaffney
Dr. W. A. Whitlock, Jr., Aiken
Dr. H. M. Whitworth, Jr., Greenville
Dr. O. P. Wise, Saluda
Dr. C. F. Williams, Columbia
Dr. Robert Wilson, Charleston
Dr. Robert Wilson, Jr., Charleston
Dr. F. R. Wrenn, Anderson

## STATE AND COUNTY MEDICAL SOCIETY COMMITTEES ON MEDICAL PREPAREDNESS

*Dr. Edgar A. Hines, State Chairman Medical Preparedness, Seneca, S. C.*

### *STATE COMMITTEE*

Dr. T. A. Pitts, Chairman, The Baptist Hospital, Columbia, S. C.
Dr. F. G. Cain, 4 Vanderhorst Street, Charleston, S. C.
Dr. J. D. Harrison, Greenwood, S. C.
Dr. Hugh Smith, 206 East North Street, Greenville, S. C.
Dr. Roderick Macdonald, Rock Hill, S. C.
Dr. Julian P. Price, Florence, S. C.
Dr. E. T. Kelley, Kingstree
Dr. L. P. Thackston, Orangeburg, S. C.
Dr. G. M. Truluck, President-Elect, S. C. Medical Association, Orangeburg, S. C.
Dr. W. L. Pressly, President, S. C. Medical Association, Due West, S. C.

### *COUNTY COMMITTEES*

#### *Abbeville County*

Dr. J. C. Hill, Chairman, Abbeville
Dr. J. R. Power, Abbeville
Dr. J. V. Tate, Calhoun Falls
Dr. F. L. Mabry, President, Member Ex-officio, Abbeville

#### *Aiken County*

Dr. L. D. Boone, Chairman, Aiken
Dr. S. A. Morrall, Graniteville
Dr. F. A. Kennedy, Langley
Dr. W. H. Mathis, North Augusta
Dr. W. A. Whitlock, Jr., President, Member Ex-officio, Aiken
Dr. R. H. Wilds, Secretary, Member Ex-officio, Aiken
Dr. J. T. Hair, Aiken County Health Officer, Member Ex-officio, Aiken

#### *Allendale County*

Dr. J. L. Folk, Chairman, Fairfax
Dr. W. H. Breeland, Allendale
Dr. G. W. I. Loadholt, Fairfax

#### *Anderson County*

Dr. Frank Wrenn, Chairman, Anderson County Hospital, Anderson
Dr. J. M. Feder, Anderson County Hospital, Anderson
Dr. J. B. Latimer, Anderson
Dr. Herbert Blake, President, Member Ex-officio, Anderson
Dr. Ned Camp, Secretary, Member Ex-officio, Anderson

#### *Barnwell County*

Dr. Herbert H. Gross, Barnwell

#### *Beaufort-Jasper Counties*

Dr. H. C. Foster, Chairman, Beaufort
Dr. C. P. Ryan, Ridgeland
Dr. T. B. Carroll, Ridgeland
Dr. E. D. Reynolds, Hardeeville

#### *Berkeley County*

Dr. J. N. Walsh, Moncks Corner, Chairman
Dr. J. W. Carroll, Russellville
Dr. H. A. Willis, Moncks Corner

#### *Charleston County*

Dr. R. S. Cathcart, Chairman, 75 Hasell Street, Charleston
Dr. Robert Wilson, Sr., The Medical College, Charleston
Dr. A. J. Buist, Sr., 279 Meeting Street, Charleston
Dr. G. McF. Mood, 16 Lucas Street, Charleston

#### *Cherokee County*

Dr. J. C. Hall, Chairman, Gaffney
Dr. J. P. Thomas, Gaffney
Dr. G. R. Westrope, Gaffney
Dr. S. B. Sherard, Gaffney

#### *Chester County*

Dr. W. R. Wallace, Chairman, Chester
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Dr. James B. Watson, 1512 Marion St., Columbia
Dr. Jas. Quattlebaum, Secretary, Member Ex-officio, 308 Carolina Life Building, Columbia
Dr. A. F. Burnside, President, Member Ex-officio, 1512 Marion Street, Columbia

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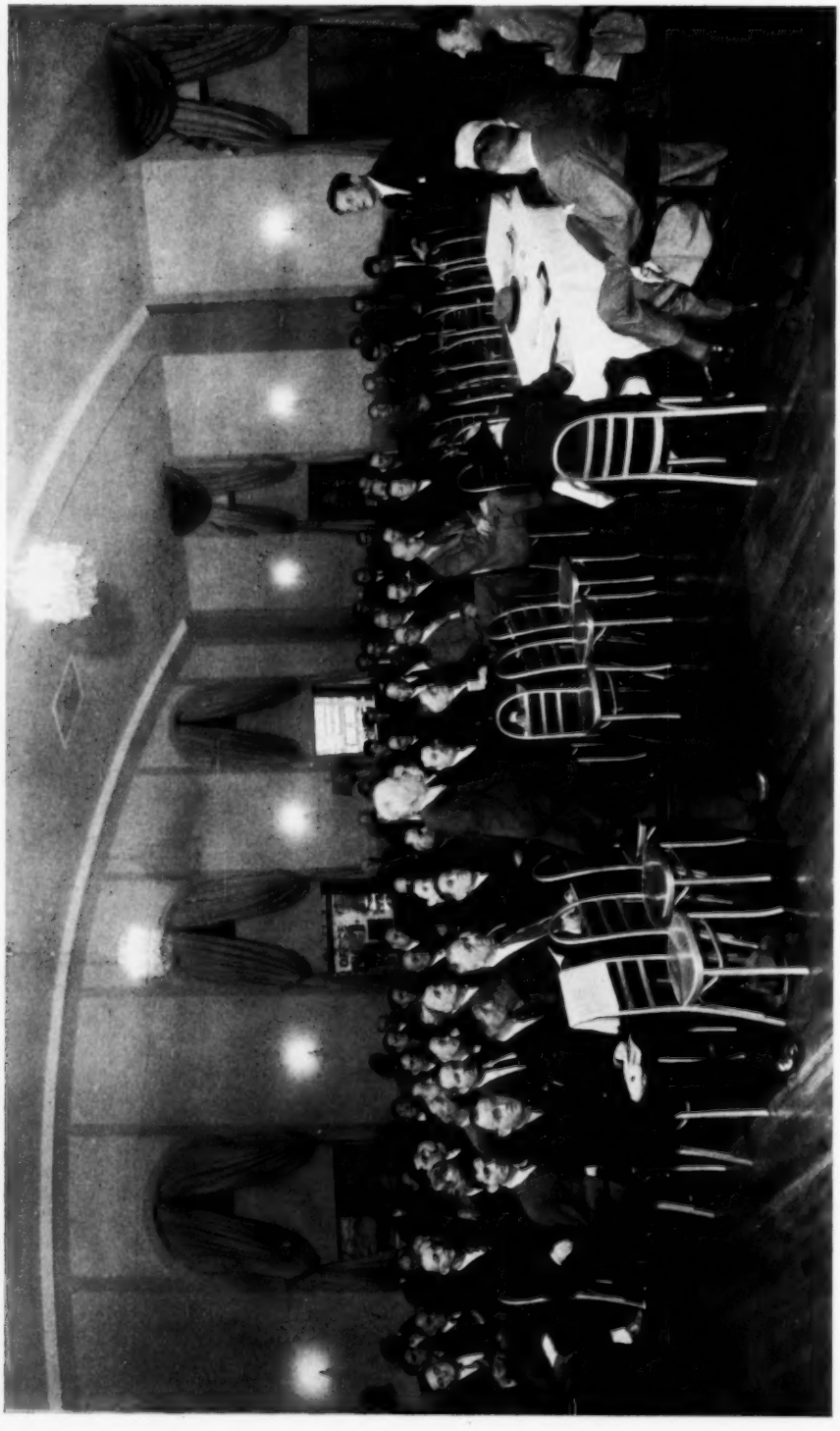

First meeting State Committee and County Committees on Medical Preparedness of the South Carolina Medical Association, Columbia, October 14, 1940. Seated at the table left to right, Dr. Edgar Hill Greene, State Chairman for Georgia, Atlanta, guest speaker, Dr. Edgar A. Hines, State Chairman for South Carolina, Dr. T. A. Pitts, Columbia, Chairman State Committee, presiding. Standing (right) Governor Burnet R. Maybank, guest speaker.

Dr. Carl B. Epps, President, Member Ex-officio, Sumter
Dr. J. R. Dunn, Secretary, Member Ex-officio, Sumter

*Union County*

Dr. P. K. Switzer, Chairman, Union
Dr. R. R. Berry, Union
Dr. A. P. McElroy, Union

*Williamsburg County*

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Dr. O. F. Hogan, Greeleyville
Dr. H. L. Baker, Hemingway
Dr. J. M. Brice, President, Member Ex-officio, Kingstree
Dr. B. M. Montgomery, Secretary, Member Ex-officio, Kingstree

*York County*

Dr. W. F. Strait, Chairman, Rock Hill
Dr. E. E. Herlong, Rock Hill
Dr. R. D. Summer, Rock Hill

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Dr. Charles Mobley of Orangeburg, S. C.; Dr. O. A. Alexander of Darlington, S. C., and Dr. W. L. Pressly of Due West, S. C.

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| 3. | Dr. A. A. Walden | North Augusta |
| 4. | Dr. Wilbur Tuten | Fairfax |
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| 17. | Dr. John F. Townsend | Charleston |
| 18. | Dr. S. B. Sherard | Gaffney |
| 19. | Dr. T. A. Campbell | Blacksburg |
| 20. | Dr. H. M. Ross | Chester |
| 21. | Dr. H. M. Ross | Chester |
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